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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			EXAMINER MASON, DONNA K	
			ART UNIT	PAPER NUMBER
			2181	

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,951

Applicant(s)

SOLOMON, GARY A.

Examiner

Donna K. Mason

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-22 is/are rejected.
- 7) ☒ Claim(s) 5, 7, 13, 14, and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "30" has been used to designate both "the next address register" (see page 3, line 14) and "the bus" (see page 3, line 25). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

On page 2, line 5, delete ",", after "operations";

On page 2, line 8, delete ". " before "Existing";

On page 3, line 1, delete "adaptive" (second occurrence);

On page 4, Table 1, change "PPFR" (three occurrences) to --PPFR--;

On page 4, insert a label for Table 1 (i.e., insert --Table 1-- before line 5;

On page 4, line 18, insert --the-- before "pre-fetch";

On page 5, Table 2, change "PPFR" (three occurrences) to --PPFR--;

On page 5, line 24, delete "presumably" (first occurrence).

Appropriate correction is required.

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3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

In claim 10, "changing the amount of data determined also by the value in the re-read pre-fetch factor register" is recited in lines 3-5. This claimed subject matter is not in the specification.

In claim 18, "determine the amount of data requested also by the value in the re-read pre-fetch factor register" is recited in lines 4-5. This claimed subject matter is not in the specification.

Claim Objections

4. Claims 5, 7, 13, 14, and 17 are objected to because of the following informalities:

5. Claims 5 and 7 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. (It should be noted that contrary to what is recited in dependent claim 5, there is no claim 4 in the application as originally filed).

Because the interpretation of claims 5 and 7 would require considerable speculation, claims 5 and 7 have not been considered in view of the prior art. (See *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962)).

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6. In claim 13, line 2, change "is" to "are".
7. In claim 14, line 2, the examiner recommends deleting "be able to" before "enable".
8. In claim 17, line 2, insert ":" after "to".
9. Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 10, 11, 13, 14, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claim 10 is ambiguous because it recites both an apparatus and method steps. More specifically, claim 10 is directed to a system, but recites the step of "changing the amount of data." As a result of this ambiguity, it is indefinite as to which statutory class of invention the claim is directed to. (See *Ex parte Lydell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990) (holding that a claim directed to an automatic transmission workstand and the method steps of using it was and properly rejected under 35 USC 112, second paragraph). Because the class is indeterminate, claim 10 has not been considered with respect to the prior art. (See *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962)).

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13. Claim 10 recites "changing the amount of data determined also by the value in the re-read pre-fetch factor register" in lines 3-5. This phrase lacks clarity. For example, the use of the term "also" suggests that something in addition to the value in the re-read pre-fetch factor register is being used. However, there is no prior factor, or other element that relates back to "also". Applicant is urged to review claim 10 in its entirety to correct other lacks of clarity. Because an interpretation of claim 10 would be based upon considerable speculation as to the meaning of this limitation, claim 10 has not been considered with respect to the prior art. (See *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962)).

14. Claim 11 recites the limitation "the determining" in line 3. There is insufficient antecedent basis for this limitation in the claim. For examination purposes, "the determining" has been interpreted as "the determination".

15. Claim 13 recites the limitation "The method" in line 1. There is insufficient antecedent basis for this limitation in the claim. For examination purposes, "The method" has been interpreted as "The system".

16. Claim 14 recites the limitation "The method" in line 1. There is insufficient antecedent basis for this limitation in the claim. For examination purposes, "The method" has been interpreted as "The system".

17. Claim 18 recites "determine the amount of data requested also by the value in the re-read pre-fetch factor register" in lines 4-5. This phrase lacks clarity. For example, the use of the term "also" suggests that something in addition to the value in the re-read pre-fetch factor register is being used. However, there is no prior factor, or

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other element that relates back to "also". Applicant is urged to review claim 18 in its entirety to correct other lacks of clarity. Because an interpretation of claim 18 would be based upon considerable speculation as to the meaning of this limitation, claim 18 has not been considered with respect to the prior art. (See *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962)).

Claim Rejections - 35 USC § 101

18. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

19. Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Section 101 is based on the theory that a claim must be directed to either a "process" or a "machine," such that the statutory classes of invention are set forth in the alternative only. Claim 10, to the contrary, improperly embraces or overlaps two different classes of invention set forth in 35 U.S.C. 101 by reciting an apparatus claim with limitations directed to a method. (See *Ex parte Lydell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990)).

Claim Rejections - 35 USC § 102

20. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than on year prior to the date of application for patent in the United States.

21. Claims 1, 6, 8, 9, 11, and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,012,106 to Schumann, et al. ("Schumann").

With regard to independent claim 1, Schumann discloses a method including the steps of receiving, from an agent, a request to read data from a read address in pre-fetchable data storage (column 3, lines 38-40), retrieving an initial amount of data determined by a pre-fetch factor (column 3, lines 60-64), determining if the requesting agent received as much data as it requested (column 5, lines 20-21), and based upon the step of determining, storing a next read address (column 4, lines 47-49).

With regard to dependent claim 6, Schumann discloses the method where the value of the pre-fetch factor is alterable (column 4, lines 59-63).

With regard to independent claim 8, Schumann discloses a system including a computer (Fig. 1, item 10) having at least one agent (Fig. 1, items 18a, 18b, . . . 18x), at least one bridge (Fig. 1, item 16 and Fig. 2, item 16), a pre-fetch factor register (Fig. 2, item 21), a re-read pre-fetch factor register (Fig. 2, item 27), and a next read address register (Fig. 2, item 29). The bridge is configured to receive from an agent a request to read data from a read address in pre-fetchable data storage (column 3, lines 38-40), request an amount of data determined by a number stored in the pre-fetch factor register (column 4, lines 55-58), determine if the requesting agent has received the full amount of requested data (column 5, lines 20-21), and based upon the determination, increment the re-read pre-fetch factor register (column 5, lines 11-13).

With regard to dependent claim 9, Schumann discloses the system where the bridge is further configured, based upon the determination, to store a next read address (column 4, lines 49-54).

With regard to dependent claim 11, Schumann discloses the system further including the bridge being configured to change the value in the re-read pre-fetch factor register based upon the determining (column 3, lines 60-64).

With regard to dependent claim 13, Schumann discloses the system where the contents of the pre-fetch factor register are alterable (column 4, lines 59-63).

With regard to dependent claim 14, Schumann discloses the system where the bridge is configured so as to enable and disable the application of the pre-fetch register and the re-read pre-fetch register under control of the computer (Fig. 2, item 20).

With regard to dependent claims 15 and 16, Schumann discloses the system where the pre-fetch register is contained within the bridge (Fig. 2, item 21) and where the re-read pre-fetch register is contained within the bridge (Fig. 2, item 27).

Therefore, Schumann reads on the invention as claimed.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schumann in view of U.S. Patent No. 5,768,548 to Young, et al. ("Young").

As described above with regard to the anticipation rejection, Schumann discloses all the features of independent claim 1. With regard to dependent claim 2, Schumann does not expressly disclose the step of comparing the read address to a stored next read address, and if they match, retrieving an amount of data determined by both the pre-fetch factor and a re-read pre-fetch factor. Young discloses the step of comparing the read address to a stored next read address, as described in column 11, lines 27-30.

With regard to dependent claim 3, Schumann discloses the step of changing the re-read pre-fetch factor based upon the step of determining (column 3, lines 60-64).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the step of comparing in Young with Schumann. The suggestion or motivation for doing so would have been to determine whether the next access is addressed to the next sequential address (column 11, lines 27-30).

Therefore, it would have been obvious to combine Young with Schumann to obtain the invention as specified in claims 2 and 3.

24. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schumann in view of U.S. Patent No. 6,167,506 to Witt.

As described above with regard to the anticipation rejection, Schumann discloses all the features of independent claim 8. With regard to dependent claim 12, Schumann does not expressly disclose the bridge, further configured to decrement the pre-fetch

factor register after an interval. Witt discloses a bridge (Fig. 15, item 202) configured to decrement a pre-fetch factor register after an interval (column 18, lines 51-60).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the bridge of Witt with Schumann. The suggestion or motivation for doing so would have been to decrease the amount of data fetched.

Therefore, it would have been obvious to combine Witt with Schumann to obtain the invention as specified in claim 12.

25. Claims 17, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schumann in view of U.S. Patent No. 6,496,921 to Arimilli, et al. ("Arimilli").

With regard to independent claim 17, Schumann discloses a computer program product (column 3, lines 4-16) including instructions to cause a computer to receive from an agent a request to read data from a read address in pre-fetchable data storage (column 3, lines 38-40), request an amount of data determined by a number stored in the pre-fetch factor register (column 4, lines 55-58), determine if the requesting agent has received the full amount of requested data (column 5, lines 20-21), and based upon the determination, store a next read address (column 4, lines 47-49).

With regard to dependent claim 21, Schumann discloses the computer program product where the pre-fetch factor register (Fig. 2, item 21), the re-read pre-fetch register (Fig. 2, item 27), and the next read address (Fig. 2, item 29) are contained within a bridge (Fig. 2, item 16).

With regard to dependent claim 22, Schumann discloses the computer program product where the instructions are stored in and implemented by a bridge (Fig. 2, item 20).

Schumann does not expressly disclose the computer program product being disposed on a computer readable medium, as described in independent claim 17. Arimilli discloses a computer program product disposed on a computer readable medium (Fig. 3, item 178).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the computer readable medium of Arimilli with Schumann. The suggestion or motivation for doing so would have been provide The suggestion or motivation for doing so would have been to provide a removable read-only storage medium for the instructions, thereby preventing users from overwriting the instructions.

Therefore, it would have been obvious to combine Arimilli with Shcumann to obtain the invention as specified in claims 17, 21, and 22.

26. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schumann in view of Arimilli as applied to claim 17 above, and further in view of U.S. Patent No. 6,085,291 to Hicks, et al. ("Hicks").

As described above with regard to the obviousness rejection, Schumann in view of Arimilli discloses all the features of independent claim 17. Schumann in view of Arimilli does not expressly disclose instructions causing a computer to increment a re-

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read pre-fetch factor register. Hicks discloses instructions causing a computer to increment a re-read pre-fetch factor register (column 3, lines 7-10).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the instructions of Hicks with Schumann and Arimilli. The suggestion or motivation for doing so would have been to increase the amount of data pre-fetched.

Therefore, it would have been obvious to combine Hicks with Schumann and Arimilli to obtain the invention as specified in claim 19.

27. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schumann in view of Arimilli as applied to claim 17 above, and further in view of Witt.

As described above with regard to the obviousness rejection, Schumann in view of Arimilli discloses all the features of independent claim 17. With regard to dependent claim 20, Schumann in view of Arimilli does not expressly disclose instructions causing the computer to decrement the pre-fetch factor register at an interval. Witt discloses instructions causing the computer to decrement the pre-fetch factor after an interval (column 18, lines 51-60).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the instructions of Witt with Schumann and Arimilli. The suggestion or motivation for doing so would have been to decrease the amount of data pre-fetched.

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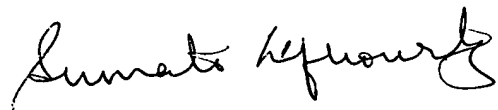
Therefore, it would have been obvious to combine Witt with Schumann and Arimilli to obtain the invention as specified in claim 20.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donna K. Mason whose telephone number is (703) 305-1887. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H. Rinehart can be reached on (703) 305-4815. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

DKM


SUMATI LEFKOWITZ
PRIMARY EXAMINER